

VALUE(S) ADDED 7-24-85

FACT SHEET REVISED -----

VALUE(S) REMOVED -----

Date: July 26, 1984

Surface Water Quality
Standard Documentation

Chemical: Thallium

C.A.S. No.(s): NA

Basis (Human/Aquatic): Aquatic

Standard by Water Classification:

	<u>ug/l</u>	<u>Notes</u>
Classes AA,AA-s;A;A-s;B;C	8	I
Class D	20	K
Classes SA;SB;SC;I		
Class SD		

Remarks:

Summary of Information

EPA.1980. Ambient water quality criteria for thallium. EPA
440/5-80-074. USEPA, Wash., D.C.

"CRITERIA

Aquatic Life

"The available data for thallium indicate that acute and chronic toxicity to freshwater aquatic life occur at concentrations as low as 1,400 and 40 ug/l, respectively, and would occur at lower concentrations among species that are more sensitive than those tested. Toxicity to one species of fish occurs at concentrations as low as 20 ug/l after 2,600 hours of exposure.

"The available data for thallium indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 2,130 ug/l and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of thallium to sensitive saltwater aquatic life."

Standard Derivation

The data base was insufficient for EPA to derive criteria using the national guidelines. Available data are scientifically sound and application of NYS protocol results in the following criteria for freshwater.

Applying a factor of 0.2 to the lowest chronic effect reported in EPA (1980) (40 ug/l for fathead minnow) results in a standard for all fresh water classes except D of 8 ug/l. This value correlates well with the standard that could be obtained by multiplying the LC_{50}/EC_{50} of 910 ug/l in EPA (1980) by an application factor of 0.01.

For class D the standard should be 20 ug/l, the 2600 hr. LC_{40} for Atlantic salmon, reported in Table 6 of EPA (1980). This value is lower than one that could be obtained using 48 or 96 hr. LC_{50} data and an application factor of 0.1.